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EXAMINER	
MAHMOUDZADEH, NIMA	

ART UNIT	PAPER NUMBER
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12/24/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/825,654	KISHORE ET AL.	
	Examiner	Art Unit	
	NIMA MAHMOUDZADEH	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 26 August 2008.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-30 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-30 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on 08/26/2008 has been entered. Claims 1- 30 are still pending in this application, with claims 1, 11, 21, 24, 27, and 29 being independent.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-21, 23, 24, and 26-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Erimli (US Patent No. 6,980,520)

Regarding claim 1, Erimli teaches a method of managing flow of datagram traffic, the method comprising:

providing a first networked device (Fig. 3, device 180A) that is operably connected to a second networked device (Fig. 3, device 180B is connected to device 180A);

transferring datagrams from a first port of the first device to a first port of the second device (Column 7, lines 21-28 which disclose ports of the multi-port switches in

this system are corresponding to ports 1-N) using a pathway that is operably connected to a second port of the first device and a second port of the second device (Column 7, lines 21-28 which disclose ports of the multi-port switches in this system are corresponding to ports 1-N. Also see Fig. 3 which element 180A is connected to element 180B);

selectively pausing an individual port on the first device that is causing over-subscription of the first port of the second device (Column 1, lines 54-64 disclose a pause response that is sent to the first to stop the transmission through specific address/port. Also see Fig. 5); and

transferring datagrams from a third port of the first device (Column 2, lines 10-19 disclose sending data from the input of the first device to the output of the first device and then to the second device. Also see Fig. 3) to the first port of the second device using the pathway that is operably connected to the second port of the first device and the second port of the second device, while the individual port on the first device is paused (Column 2, lines 10-24 disclose sending data from the input of the first device to the output of the first device and then to the second device. Also see Fig. 3, Fig. 5, and column11, lines 17-28).

Regarding claim 2, Erimli teaches the method of claim 1, further comprising re-activating a paused port by transmitting a re-activation signal to the paused port (Column 1, lines 42-49 disclose after period of time has passed the pause is removed and the signal is being transmitted to the port).

Regarding claim 3, Erimli teaches the method of claim 1, further comprising re-activating a paused port pursuant to the detection of a condition wherein the first port of the second device has datagram traffic flowing therethrough in an amount that is below a lower trigger value (Column 8, lines 58-67 disclose when the buffer reaches pre-determined value it means the congestion has occurred. Naturally when the congested port drops below the threshold, the pause is discontinued).

Regarding claim 4, Erimli teaches the method of claim 1, further comprising re-activating a paused port pursuant to the passage of a pre-determined time increment (Column 1, lines 42-49 disclose after period of time is past the pause it removed and the signal is being transmitted to the port).

Regarding claim 5, Erimli teaches the method of claim 1, wherein the selectively pausing comprises using in-band control frames to pause the individual port (Fig. 6 discloses a pause fame which section 610 is the source address or the port causing the congestion).

Regarding claim 6, Erimli teaches the method of claim 1, wherein the selectively pausing comprises using separate pathways between the first and second networked devices to transmit datagrams and control frames (Column 7, lines 21-28 which disclose ports of the multi-port switches in this system are corresponding to ports 1-N. Also see Fig. 3 which element 180A is connected to element 180B and Fig. 6 discloses a pause fame which section 610 is the source address or the port causing the congestion).

Regarding claim 7, Erimli teaches the method of claim 1, wherein the selectively pausing comprises using a non-memory-consuming communication to pause the individual port (Fig. 6 discloses a pause fame which section 610 is the source address or the port causing the congestion. The source address is being transmitted in the frame and not in the memory).

Regarding claim 8, Erimli teaches teach the method of claim 1, wherein the selectively pausing comprises referencing a listing of ports that are over-subscribed (Fig. 6 discloses a pause fame which section 610 is the source address or the port causing the congestion. It is clear that if more than one port is congested, the source address are going to be in appropriate pause frame to the destination and controlled nu flow control logic of each multi-port switch).

Regarding claim 9, Erimli teaches the method of claim 8, wherein the selectively pausing comprises periodically updating the listing of ports that are over-subscribed (Column 1, 31-41).

Regarding claim 10, Erimli teaches the method of claim 1, wherein the selectively pausing comprises selectively pausing individual ports on devices other than the first and second device (Column 7, 11-20).

Regarding claim 11, Erimli teaches a method of managing flow of datagram traffic, the method comprising:

providing a first networked device (Fig. 3, device 180A) that is operably connected to a second networked device (Fig. 3, device 180B is connected to device 180A);

transferring datagrams from a first port of the first device to a first port of the second device (Column 7, lines 21-28 which disclose ports of the multi-port switches in this system are corresponding to ports 1-N) using a pathway that is operably connected to a second port of the first device and a second port of the second device (Column 7, lines 21-28 which disclose ports of the multi-port switches in this system are corresponding to ports 1-N. Also see Fig. 3 which element 180A is connected to element 180B);

signaling the first port of the first device to send fewer datagrams to the first port of the second device when an over-subscription is detected at the first port of the second device (Column 1, lines 54-64 disclose a pause response that is sent to the first to stop the transmission through specific address/port. Pausing causes device to reduce throughput through the port in question. Also see Fig. 5); and

transferring datagrams from a third port of the first device (Column 2, lines 10-19 disclose sending data from the input of the first device to the output of the first device and then to the second device. Also see Fig. 3) to the first port of the second device using the pathway that is operably connected to the second port of the first device and the second port of the second device, while the first port of the first device is sending fewer datagrams to the first port of the second device (Column 2, lines 10-24 disclose

sending data from the input of the first device to the output of the first device and then to the second device. Pausing causes device to reduce throughput through the port in question. Also see Fig. 3, Fig. 5, and column11, lines 17-28).

Regarding claim 12, Erimli teaches the method of claim 11, wherein the signaling comprises signaling the first port of the first device to send datagrams in proportion to a total number of datagrams attempting to reach the first port of the second device (Column 1, lines 42-49 disclose after period of time has passed the pause is removed and the signal is being transmitted to the port. Also, column 8, lines 58-67 disclose when the buffer reaches pre-determined value it means the congestion has occurred. Naturally when the congested port drops below the threshold, the pause is discontinued).

Regarding claim 13, Erimli teaches the method of claim 11, wherein the signaling is performed using a non-memory-consuming communication to signal the first port of the first device (Fig. 6 discloses a pause fame which section 610 is the source address or the port causing the congestion. The source address is being transmitted in the frame and not in the memory).

Regarding claim 14, Erimli teaches the method of claim 11, wherein the signaling comprises broadcasting a signal that alerts ports on the network that the first port of the second device is over-subscribed (Column 8, lines 4-15 discloses multicasting which is a controlled broadcast).

Regarding claim 15, Erimli teaches the method of claim 11, wherein the transferring comprises referencing a listing of ports on the network that are over-subscribed before transferring a datagram between the first port of the first device to the first port of the second device (Fig. 6 discloses a pause fame which section 610 is the source address or the port causing the congestion. It is clear that if more than one port is congested, the source addresses are going to be in appropriate pause frame to the destination and controlled nu flow control logic of each multi-port switch).

Regarding claim 16, Erimli teaches the method of claim 11, further comprising:

resuming unrestricted datagram transmission to the first port of the second device by broadcasting a signal (Column 8, lines 4-15 discloses multicasting which is a controlled broadcast).

Regarding claim 17, Erimli teaches the method of claim 11, further comprising:

resuming unrestricted datagram transmission to the first port of the second device when a total number of datagrams attempting to reach the first port of the second device falls below a lower trigger value (Column 8, lines 58-67 disclose when the buffer reaches pre-determined value it means the congestion has occurred. Naturally when the congested port drops below the threshold, the pause is discontinued).

Regarding claim 18, Erimli teaches the method of claim 11, further comprising:

resuming unrestricted datagram transmission to the first port of the second device after passage of a pre-determined time increment (Column 1, lines 42-49 disclose after period of time is past the pause it removed and the signal is being transmitted to the port).

Regarding claim 19, Erimli teaches the method of claim 11, wherein the signaling comprises using in-band control frames (Fig. 6 discloses a pause fame which section 610 is the source address or the port causing the congestion).

Regarding claim 20, Erimli teaches the method of claim 11, wherein the signaling comprises using a separate link to transmit control frames (Column 7, lines 1-20).

Regarding claim 21, Erimli teaches a communications system comprising:

a first data distribution means (Fig. 3, device 180A) operably connected to a second data distribution means (Fig. 3, device 180B is connected to device 180A);

a first communications means for transferring datagrams from a first port of the first data distribution means to a first port of the second data distribution means (Column 7, lines 21-28 which disclose ports of the multi-port switches in this system are corresponding to ports 1-N);

control means for selectively pausing individual ports that are causing over-subscription of the first port of the second data distribution means (Column 1, lines 54-

64 disclose a pause response that is sent to the first to stop the transmission through specific address/port. Also see Fig. 5); and

means for transferring datagrams from a second port of the first data distribution means to the first port of the second data distribution means, while the individual ports are paused (Column 2, lines 10-24 disclose sending data from the input of the first device to the output of the first device and then to the second device. Also see Fig. 3, Fig. 5, and column11, lines 17-28).

Regarding claim 23, Erimli teaches the system of claim 21, further comprising storage means for storing information concerning which ports in the network are over-subscribed (Fig. 3, element 240).

Regarding claim 24, Erimli teaches a communications system comprising:

a first data distribution means (Fig. 3, device 180A) operably connected to a second data distribution means for distributing datagrams over a network (Fig. 3, device 180B is connected to device 180A);

first communications means for transferring the datagrams from a first port of the first data distribution means to a first port of the second data distribution means (Column 7, lines 21-28 which disclose ports of the multi-port switches in this system are corresponding to ports 1-N. Also see Fig. 3 which element 180A is connected to element 180B);

control means for signaling the first port of the first data distribution means to send fewer datagrams to the first port of the second data distribution means when an over-subscription is detected at the first port of the second data distribution means (Column 1, lines 54-64 disclose a pause response that is sent to the first to stop the transmission through specific address/port. Pausing causes device to reduce throughput through the port in question. Also see Fig. 5); and

means for transferring datagrams from a second port of the first data distribution means to the first port of the second data distribution means, while the first port of the first data distribution means is sending fewer datagrams to the first port of the second data distribution means (Column 2, lines 10-24 disclose sending data from the input of the first device to the output of the first device and then to the second device. Pausing causes device to reduce throughput through the port in question. Also see Fig. 3, Fig. 5, and column11, lines 17-28).

Regarding claim 26, Erimli teaches the system of claim 24, further comprising:

storage means for storing information concerning which ports in the network are over-subscribed (Fig. 3, element 240).

Regarding claim 27, Erimli teaches a communications system comprising:

a first device (Fig. 3, device 180A) operably connected to a second device (Fig. 3, device 180B is connected to device 180A);

a first controller (Fig. 3, element 225) configured to transfer datagrams from a first port of the first device to a first port of the second device (Column 7, lines 21-28 which disclose ports of the multi-port switches in this system are corresponding to ports 1-N);

a second controller (Fig. 3, element 225 located in the device 180B) configured to selectively pause individual ports in the first device that are contributing to over-subscription of the first port of the second device (Column 7, lines 21-28 which disclose ports of the multi-port switches in this system are corresponding to ports 1-N. Also see Fig. 3 which element 180A is connected to element 180B); and

wherein the first controller is further configured to transfer diagrams from a second port of the first device to the first port of the second device, while the individual ports are paused (Column 2, lines 10-24 disclose sending data from the input of the first device to the output of the first device and then to the second device. Also see Fig. 3, Fig. 5, and column11, lines 17-28).

Regarding claim 28, Erimli teaches the system of claim 27, further comprising:

a storage unit configured to store information concerning which ports in the second device are over-subscribed (Fig. 3, element 240).

Regarding claim 29, Erimli teaches a communications system comprising:

a first device (Fig. 3, device 180A) operably connected to a second device (Fig. 3, device 180B is connected to device 180A);

a first controller (Fig. 3, element 225 in device 180A) configured to transfer datagrams from a first port of the first device to a first port of the second device (Column 7, lines 21-28 which disclose ports of the multi-port switches in this system are corresponding to ports 1-N. Also see Fig. 3 which element 180A is connected to element 180B); and

a second controller (Fig. 3, element 225 in device 180B) configured to signal the first port of the first device to send fewer datagrams to the first port of the second device when an over-subscription is detected at the first port of the second device (Column 7, lines 21-28 which disclose ports of the multi-port switches in this system are corresponding to ports 1-N. Also see Fig. 3 which element 180A is connected to element 180B)

wherein the first controller is further configured to transfer datagrams from at least a second port of the first device to the first port of the second device, while the first port of the first device is sending fewer datagrams to the second port of the second device (Column 2, lines 10-24 disclose sending data from the input of the first device to the output of the first device and then to the second device. Pausing causes device to reduce throughput through the port in question. Also see Fig. 3, Fig. 5, and column11, lines 17-28).

Regarding claim 30, Erimli teaches the system of claim 29, further comprising a storage unit configured to store information concerning which ports in the network are over-subscribed (Fig. 3, element 240).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erimli (US Patent No. 6,980,520) in view of Leach,, JR. et al (US Patent Publication No. 2002/0089994).

Regarding claim 22, Erimli teaches the system of claim 21, further comprising a second communications means between the first data distribution means and the second data distribution means (Column 11, lines 21-28 disclose connection using other source addresses) but fail to explicitly teach the system wherein the second

communications means is non-lossy. However, Leach, JR. et al teach the system wherein the second communications means is non-lossy(See paragraph [0008]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the communication means disclosed by Erimli to perform as a lossy less communication link taught by Leach,, JR et al. in order to increase the quality of communication and decrease the delay caused by it.

Regarding claim 25, Erimli teaches the system of claim 24, further comprising:

a second communications means for allowing communication between the first data distribution means and the second data distribution means (Column 11, lines 21-28 disclose connection using other source addresses), but fail to teach the system wherein the second communications means is non-lossy. However, Leach, JR. et al teach the system wherein the second communications means is non-lossy (See paragraph [0008]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the communication means disclosed by Erimli to perform as a lossy less communication link taught by Leach,, JR et al. in order to increase the quality of communication and decrease the delay caused by it.

Response to Arguments

6. Applicant's arguments filed 08/26/2008 have been fully considered but they are not persuasive.

On page 14 of the Applicant's response, Applicant argued that Erimli does not teach "selectively pausing an individual port on the first device that is causing over-subscription of the first port of the second device," as recited in independent claim 1, and similarly recited in independent claims 21 and 27. The Examiner respectfully disagrees. As disclosed on column 1, lines 54-64, the pause frame is sent to stop the congestion caused by the other party. As an example in a switch with multiple ports, if one port is causing the congestion the same port will receive a pause frame to control the congestion.

On pages 14 and 15 of the Applicant's response, Applicant argued that Erimli does not teach "signaling the first port of the first device to send fewer datagrams to the first port of the second device when an over-subscription is detected at the first port of the second device," as recited in independent claim 11, and similarly recited in independent claims 24 and 29. The Examiner respectfully disagrees. As disclosed on column 1, lines 42-50 the pause frame is going to reduce the throughput which as a result decrease the congestion.

On page 15 of the Applicant's response, Applicant argued that Erimli does not teach "selectively pausing an individual port that is causing an over-subscription of a port". Furthermore, Applicant argued that Erimli also fails to disclose "signaling a port to send fewer datagrams when an over-subscription is detected". The Examiner respectfully disagrees. As disclosed on column 1, lines 42-64 the pause frame is sent to

stop the congestion caused by the other party. For clarification, an example of a switch with multiple ports will be helpful. If one port on that switch is causing the congestion on a link the same port will receive a pause frame to control the congestion and not the entire switch in a network of switches and routers. The packets transmitted through the network not only carry the source and destination address, they also carry the port number that the packet is being sent to and transmitted from.

On page 20 of the Applicant’s response, Applicant argued that Erimli does not teach "control means for selectively pausing individual ports that are causing over-subscription of the first port of the second data distribution means," as recited in independent claim 21; and "control means for signaling the first port of the first data distribution means to send fewer datagrams to the first port of the second data distribution means when an over- subscription is detected at the first port of the second data distribution means," as recited in independent claim 24. The Examiner respectfully disagrees. As disclosed on Fig. 3, the Flow Control Logic element 225 is the control means in charge of the flow/congestion control.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIMA MAHMOUDZADEH whose telephone number is (571)270-3527. The examiner can normally be reached on Monday - Friday, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag G. Shah can be reached on (571) 272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/NIMA MAHMOUDZADEH/

Examiner, Art Unit 2419

/Chirag G Shah/

Supervisory Patent Examiner, Art Unit 2419